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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/817,568 | 04/01/2004 | Ming Gao Yao | 12553/108 | 3819 |

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| EXAMINER | |
|---|---|
| KOCH, GEORGE R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1734 | |

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/817,568 | YAO, MING GAO | |
| | Examiner | Art Unit | |
| | George R. Koch III | 1734 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *8-11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 12-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-7 and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemoto (US 6,284,073), Kamigama (US 2002/0029461) and Johnson (US 6,640,423)

Nemoto discloses a system, comprising a loading fixture capable of being used to load and support a suspension when a micro-actuator coupled to a slider is attached; an adhesive controller (dispenser 6) to apply and cure an adhesive substance to the suspension; an position correction means (item 30 - see column 10, lines 25-51) which is capable of functioning as both a pitch static attitude and roll static attitude (PSA/RSA) monitor to take a first measurement of the pitch static attitude and roll static attitude of

the micro-actuator on the suspension; a gap monitor (optical camera 7) capable of being used to take a second measurement of a gap between the micro-actuator and the suspension; and a positioning tool (core mount chuck 14, and see column 6, line 66 to column 7, line 20) to hold the micro-actuator and the slider in a position relative to the suspension for attachment and to adjust the position of the micro-actuator and the slider in response to the first and second measurements.

Nemoto does not disclose that one would monitor pitch static attitude or roll static attitude or that the tool is rotational.

Kamigama discloses monitoring both pitch static attitude or roll static attitude. Kamigama discloses that these factors affect the final desired electrical properties. Therefore, it would have been obvious to one of ordinary skill in the art to have monitored these factors in order to achieve the final, desired electrical properties.

Johnson discloses that it is known to use a rotational holder (in addition to X, Y, and Z movements as in Nemoto) when bonding dies (a slider being consider one form of a die) to substrates. Johnson discloses that such rotational movements allow for proper placement of the die to the substrate, ensure proper functioning. Therefore, it would have been obvious to one of ordinary skill in the art to have utilized such a rotational positioning tool in order to properly place the slider onto the substrate.

As to claim 2, Nemeto does not disclose that the rotatable positioning tool is a vacuum nozzle system with a stepped nozzle opening shaped to the micro-actuator and the slider. However, Nemoto does disclose that the positioning tool utilizes a vacuum and is shaped to grip the slider. Furthermore, official notice is taken that it is well known

and conventional to utilize positioning tools that are dimensioned to mate with the slider, in order to achieve a proper grip on the slider and ensure accurate bonding. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such shapes in order to achieve accurate bonding.

As to claim 3, Nemoto as applied to claim 1 is capable of adjusting a level of the micro-actuator and the slider.

As to claim 4, Nemoto discloses that the gap monitor is a camera system (optical camera 7).

As to claim 5, Nemoto as applied to claim 1 is capable of using a base plate of the suspension is used as a reference point for said measurements.

As to claim 6, Nemoto as applied to claim 1 is capable of being used such that the micro-actuator is coupled to the suspension by the adhesive substance and said measurements are made prior to curing the adhesive substance.

As to claim 7, Nemoto as applied to claim 1 is capable of being used such that the position of the micro-actuator is adjusted in response to said measurements prior to curing the adhesive substance.

As to claim 12, Nemoto as applied in claim 1 above discloses a positioning device, comprising; a pitch static attitude and roll static attitude (PSA/RSA) monitor capable of being used to take a first measurement of a pitch static attitude and roll static attitude of a micro-actuator on a suspension; a gap monitor to take a second

measurement of a gap between the micro-actuator and the suspension; and a positioning tool to hold the micro-actuator in a position relative to the suspension for attachment and to adjust the position of the micro-actuator in response to said measurements.

Nemoto does not disclose that one would monitor pitch static attitude or roll static attitude or that the tool is rotational.

Kamigama discloses monitoring both pitch static attitude or roll static attitude. Kamigama discloses that these factors affect the final desired electrical properties. Therefore, it would have been obvious to one of ordinary skill in the art to have monitored these factors in order to achieve the final, desired electrical properties.

Johnson discloses that it is known to use a rotational holder (in addition to X, Y, and Z movements as in Nemoto) when bonding dies (a slider being consider one form of a die) to substrates. Johnson discloses that such rotational movements allow for proper placement of the die to the substrate, ensure proper functioning. Therefore, it would have been obvious to one of ordinary skill in the art to have utilized such a rotational positioning tool in order to properly place the slider onto the substrate.

As to claim 13, Nemeto does not disclose that the rotatable positioning tool is a vacuum nozzle system with a stepped nozzle opening shaped to the micro-actuator and the slider. However, Nemoto does disclose that the positioning tool utilizes a vacuum and is shaped to grip the slider. Furthermore, official notice is taken that it is well known and conventional to utilize positioning tools that are dimensioned to mate with the slider, in order to achieve a proper grip on the slider and ensure accurate bonding. Therefore,

it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such shapes in order to achieve accurate bonding.

As to claim 14, the rotational tool of Johnson as incorporate is capable of being adjustable thirty degrees left and right along an axis normal to the head suspension.

As to claim 15, Nemoto discloses that the position correction mechanism, i.e., the PSA/RSA monitor can alternatively be a laser measurement system (see column 12, lines 16-19, for example).

As to claim 16, Nemoto discloses that the gap monitor is a camera system (optical camera 7).

As to claim 17, Nemoto as applied to claim 12 is capable of using a base plate of the suspension is used as a reference point for said measurements.

As to claim 18, Nemoto as applied to claim 12 is capable of having the micro-actuator is coupled to the suspension by an epoxy and at least one of the first and second measurements are taken prior to curing the epoxy.

As to claim 19, Nemoto as applied to claim 12 is capable of using the position of the micro-actuator is adjusted in response to at least one of the first and second measurements prior to curing the epoxy.

4. Applicant's arguments filed 9/19/2005 have been fully considered but they are not persuasive.

5. In response to applicant's argument that Nemoto does not disclose that the PSA and RSA of the *microactuator* is not being controlled and bonded, a recitation of the

intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The previous rejection has been reworded and slightly changed to show that the structure of the apparatus is obvious over the previous applied references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George R. Koch III
Primary Examiner
Art Unit 1734

GRK
12/11/2005